



Healthy Aging in Neighborhoods of Diversity across the Life Span

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The Healthy Journey

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WHAT IS OSTEOPOROSIS?

Osteoporosis is a silent bone disease caused by bones that become weak. Bone is a living tissue that includes osteoblasts (cells that make bone) and osteoclasts (cells that cause bone to break down). Osteoporosis is caused when bone breaks down faster than it can be made. When this happens, the bone becomes porous, thin, and brittle.

Osteoporosis is a major health problem. Around 40 million Americans have osteoporosis. Another 35 million people are at risk for developing osteoporosis.

Women are more likely to develop osteoporosis, especially after menopause

Who is at risk?

Women are more likely to develop osteoporosis, especially after menopause. The risk of osteoporosis also increases for men as they grow older. Although more people with osteoporosis are white, African American and Hispanic people are also at risk. Thin people are most likely to develop osteoporosis, but being overweight or obese will not keep you from

developing it. People who smoke tobacco, exercise too little, or don't eat enough calcium have a higher risk of developing osteoporosis. Patients on steroids like prednisone are also at high risk.

A DEXA scan is a screening test for osteoporosis.

How is osteoporosis diagnosed?

Dual Energy X-Ray Absorptiometry (DEXA) is a test that uses x-rays to measure the thickness of the bones in your hip, spine, wrist, heel, finger, and whole body. A DEXA scan is a screening test for osteoporosis. The scan of the whole body, spine, and hip takes about 30 minutes. The DEXA takes images while you lay comfortably on the scanner bed. DEXA scanning is not done if you weigh more than 297 lbs, the weight limit for the scanner bed. A DEXA scan of the spine or hip is not done if you have had reconstructive or replacement surgery. Diagnoses of osteoporosis are made when bone density is much less than it is for a healthy younger person.

CONTENTS

What is osteoporosis?.....	1
What is bone densitometry?.....	2
Focus on the HANDLS staff.....	3
Mary Lassiter – Ultrasonographer.....	3
Shari Ling, MD – Rheumatologist.....	3
What are <i>trans</i> fats?.....	4
Change of Address.....	6
HANDLS Participants.....	6
Recipes.....	7
Our present location.....	7



What are the complications of osteoporosis?

Weak bones break easily. The most common problem with osteoporosis is the likelihood of breaking bones if you fall.

If you break a bone in your back, you could be in great pain and not able to walk well. A broken hip can cause you to be disabled or could be life threatening.

The best way to prevent osteoporosis is to get enough calcium.

Prevention and treatment of osteoporosis

The best way to prevent osteoporosis is to get enough calcium. Dairy products are high in calcium. Other foods such as figs and almonds are high in calcium. Drinks and foods such as orange juice, cereals, and breads often have added calcium. You should take calcium supplements if what you get is less than 1,200mg of calcium per day. You can buy supplements that contain between 200mg and 500mg of calcium. Your body absorbs calcium better when you take it in small doses throughout the day rather than as one large dose.

Vitamin D is also necessary for your body to use calcium. You should get around 800 IU to prevent osteoporosis. Small doses of sunshine are also a natural way to increase your body's store of vitamin D.

Exercise is also important to prevent osteoporosis. Routine weight-bearing exercise is important in building strong bones. Weight-bearing exercises are walking, climbing stairs, jogging, weight training, and playing tennis. We build most of our bones as young adults. Exercising as young adults is important for keeping bones strong as you get older. Weight-bearing exercises also help us keep our balance so we are less likely to fall as we get older.

WHAT IS BONE DENSITOMETRY?

Bone densitometry (DEXA scan) is a way of testing the strength of your bones. A DEXA scan is non-invasive. This means that we can measure the strength of your bones from the surface of your skin. People who have weak bones are likely to break (fracture) a bone more easily. We can use DEXA scans to find out if your bones are weak.

DEXA is most often used to diagnose osteoporosis. Osteoporosis is a slow loss of calcium from the bones. Osteoporosis causes bones to become thinner, more fragile, and more likely to break. This disease often affects women after menopause, but it is also found in men.

What information does DEXA provide?

Two numbers summarize a DEXA scan, a T-score and a Z-score. The T-Score is your bone density compared with healthy young adults who are your same sex. If you are a woman, you are compared with young women; if you are a man, you are compared with young men. The Z-score is your bone density compared with healthy group of people who are similar to you in age, sex, weight, and ethnic or racial origin.

Your score will fall into one of three groups.

- *Normal* – a T-score above 1 means that you have healthy bone mass.
- *Low bone mass (Osteopenia)* – a T-score between -1 to -2.5 means you have an increased risk of broken bones.
- *Osteoporosis* – a T-score below -2.5 means you have an even higher risk of broken bones.

How safe is DEXA testing?

A DEXA scan is very safe, but it does involve a very small amount of radiation. The amount is so small that the person giving you the DEXA scan stays in the room with you during the entire exam. The average person in the United States receives this amount of radiation exposure from the sun, outer space, and from radioactive materials found naturally in the earth's air and soil.

FOCUS ON THE HANDLS STAFF**MARY LASSITER – ULTRASONOGRAPHER**

Mary Lassiter has been with HANDLS since the beginning of the pilot study in 2000. She is responsible for administering the carotid Doppler, EKG, blood pressure, bone densitometry, and the anthropometric measures. She works along with Dr. Ling to analyze and prepare reports for participants.

Mary is a Baltimore native. She attended Edmondson Senior High School and began her career as a medical technologist in 1967 at Lutheran Hospital as a nursing assistant. In 1980, Mary joined the cardiac staff at St. Josephs Medical Center as an EKG technician. She obtained extensive training in the cardiac stress laboratory, in performing heart rate monitoring studies, and in echo cardiography. After joining HANDLS, Mary continued to work at St. Joseph's until April 30, 2006, when she retired from St. Joseph's after 27 years.

Although she stays busy with her work, "Miss Mary" enjoys bowling, shopping, traveling, eating crabs, reading in her leisure time, and taking care of her beloved cats "Mel" and "Gracie."

SHARI LING, MD – RHEUMATOLOGIST

Dr. Shari M. Ling received her Bachelor's degree from the University of Santa Clara, and her Master's degree in Direct Service from the Ethel Percy Andrus School of Gerontology at the University of Southern California. She received her M.D. degree from Georgetown University, where she was elected into the AOA honor society. She completed her internship and residency in Internal Medicine at Georgetown University Medical Center, and served for a year as Chief Resident in the Department of Medicine at Georgetown University. She subsequently completed a fellowship in Rheumatology at Georgetown University, and a second fellowship in Geriatric Medicine at Johns Hopkins University. She joined the HANDLS study in 2000.

Dr. Ling's research interests include osteoporosis, arthritis, mobility function, inflammation, and aging. Her research examines bone quality and changes in body composition in diverse populations. Her goals are to develop treatments for preventing complications of low bone quality such as fractures.

She also enjoys her family time with her husband Geoffrey and two children Alissa (age 9) and Stephen (age 6).



Mary Lassiter and Shari Ling, MD

WHAT ARE TRANS FATS?

Trans fats are formed when liquid oils are made into solid fats like shortening and hard margarine by a process called hydrogenation. Some *trans* fats are naturally occurring in foods, typically of animal origin, but the majority of *trans* fats found in the American diet are from vegetable shortenings and margarines.

How do I know if my food contains trans fat?

As of January 2006 the Food and Drug Administration (FDA) requires that food manufacturers provide information on the amount of *trans* fats in their products in the Nutrition Facts Label. The amount of *trans*

Nutrition Facts			
Serving Size 1 cup (228g)			
Servings Per Container 2			
Amount Per Serving			
Calories 260		Calories from Fat 120	
		% Daily Value*	
Total Fat 13g			20%
Saturated Fat 5g			25%
<i>Trans</i> Fat 2g			
Cholesterol 30mg			10%
Sodium 660mg			28%
Total Carbohydrate 31g			10%
Dietary Fiber 0g			0%
Sugars 5g			
Protein 5g			
Vitamin A 4%	•	Vitamin C 2%	
Calcium 15%	•	Iron 4%	
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Calories per gram:			
Fat 9	•	Carbohydrate 4	• Protein 4



Ingredients: SUGAR, ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMINE MONONITRATE [VITAMIN B1], RIBOFLAVIN [VITAMIN B2], FOLIC ACID), **PARTIALLY HYDROGENATED SOYBEAN OIL**, COCOA (PROCESSED WITH ALKALI), HIGH FRUCTOSE CORN SYRUP, CORNSTARCH, BAKING SODA, SALT, SOY LECITHIN (EMULSIFIER), VANILLIN - AN ARTIFICIAL FLAVOR, CHOCOLATE, WHEY (FROM MILK).



fat in a serving must be listed on a separate line under saturated fat.

Another method of determining if there are *trans* fats in the foods you eat is to look at the ingredient list. If the product contains shortening, **partially hydrogenated vegetable oil**, or **hydrogenated vegetable oil** then the product will contain some amount of *trans* fat.

If the product contains shortening, partially hydrogenated vegetable oil, or hydrogenated vegetable oil then the product will contain some trans fat.

What foods typically contain trans fat?

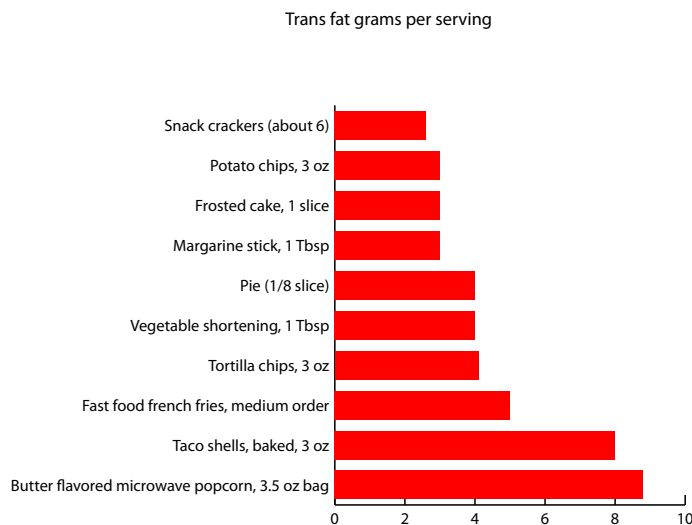
Trans fat can be found in vegetable shortenings, some margarines, crackers, candies, cookies, snack foods, fried foods, baked goods, and other processed foods made with partially hydrogenated vegetable oils. Small amounts of naturally occurring *trans* fat can be found in some animal products, such as butter, milk products, cheese, beef, and lamb.

Trans fats began to be added to foods when consumers wanted products low in saturated fat and cholesterol, and when manufacturers needed a way to add shelf life to their products. Food producers realized that they could hydrogenise vegetable oil to form something that acted like the saturated fats (lard and butter) in many baked products, which gave both consumers and manufacturers what they wanted. It is this process of hydrogenation that causes *trans* fats to form.

The chart on the next page shows common foods and the amounts of *trans* fat they typically contain.

What are the health risks of trans fats?

Trans fats, like saturated fats, can **increase blood cholesterol levels and increase your risk for heart**



disease. *Trans* fat raises the low density lipoprotein (LDL or “bad”) cholesterol in the blood, and at the same time, lowers high density lipoprotein (HDL or “good”) cholesterol in the blood. An elevated LDL cholesterol increases the risk of developing coronary heart disease (CHD).

How much trans fat should I have in my diet?

The 2005 Dietary Guidelines for Americans recommend that healthy Americans consume less than 10 percent of calories from saturated fats while keeping *trans* fat consumption as “**low as possible.**” The amount of total fat in the diet should be between 20 percent and 35 percent of calories, with the majority of fat coming from polyunsaturated and monounsaturated fats such as fish, nuts, and vegetable oils. So a 2,000 kcal diet should have between 44 and 78 gm (3 to 5 Tbsp) of total fat and no more than 22gm

The best way to limit intake of trans fats is to read food labels, the Nutrition Facts panel, and select products that are low in both trans fats and saturated fats.

(1½ Tbsp) of saturated fat.

The best way to limit intake of *trans* fats is to read food labels, the Nutrition Facts panel, and select products that are low in both *trans* fats and saturated fats. Compare similar foods and choose the food with the lower combined saturated and *trans* fats.

Although the Nutrition Facts panel will list the amount of *trans* fat in a product, it will not show a **Percent Daily Value (%DV)**. While scientific reports have confirmed the relationship between *trans* fat and an increased risk of CHD, none has provided a reference value for *trans* fat to set a Daily Reference Value or a %DV. There is, however, a %DV shown for saturated fat. To choose foods low in saturated fat, use the general rule of thumb that *5 percent of the Daily Value or less is low and 20 percent or more is high.*

When eating out, order salad with fat-free dressing or stir-fried vegetables, barbecue or grilled chicken.

When eating out, you can reduce your *trans* fat intake by

- Using mustard on sandwiches rather than mayonnaise.
- Ordering a salad. Most salads should be low in *trans* fats but you can get a load of saturated fat from the cheese and meat in a chef salad or from the sheer quantity of dressing in a chicken Caesar salad. *Solution: Order fat-free or light dressing.*
- Ordering lower-fat Chinese dishes like Szechuan shrimp or stir-fried vegetables. It’s a good bet that the cook is using liquid oil. Avoid beef, pork, and deep-fried ingredients to lower your saturated fat intake.
- Ordering barbecue or grilled chicken breast.

HANDLS PARTICIPANTS

Have you moved? Are you planning to move?

It is important to us that we know exactly how to contact our participants. HANDLS is a longitudinal study. We will examine the same participants approximately every 3 years over the next 20 years.


We would like you to let us know if you have moved or if you are planning on moving soon. You may call us toll-free at 1-866-207-8363 (option 7) and we will take your change of address information over the phone.

If you prefer, you may complete the change of address form and mail it to us at:

HANDLS Study Change of Address
National Institute on Aging
5600 Nathan Shock Drive – Mailbox 6
Baltimore, MD 21224

Our continuing contact with you is the key to the HANDLS study. Thank you so much for taking time to let us know how to stay in touch with you.

CHANGE OF ADDRESS



HANDLS Change of Address

Name _____


Old address _____

New address _____

Old area code & phone number _____

New area code & phone number _____

MRV location at last visit _____



RECIPES

Frightfully Fruit-Filled Smoothie, from Produce for Better Health Foundation by Chef Mark Goodwin CEC, CNC

Preparation time: 5 minutes; servings: 2; 5-A-Day servings: 1 cup

Ingredients:

- 1 large, ripe banana, peeled
- 1 can (8 ounces) pineapple chunks in juice, drained
- 1 cup fresh or frozen strawberries, partially thawed
- 1 container (8 ounces) low-fat strawberry yogurt

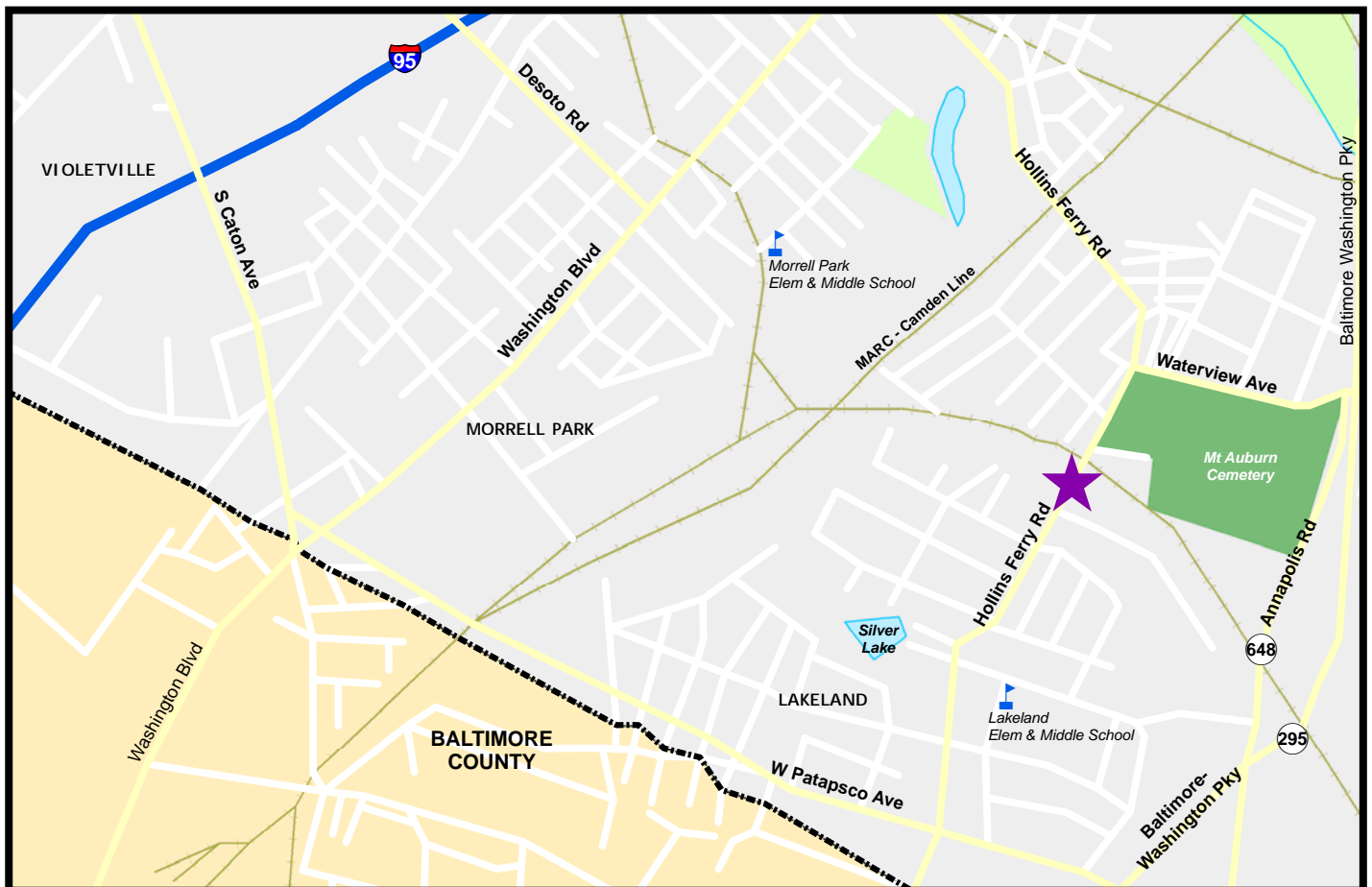
Directions:

Slice banana into blender or food processor container. Add pineapple, strawberries, and yogurt. Cover, blend until smooth.

Nutrient value:

- Calories: 228
- % calories from fat: 5%
- Protein: 3 grams
- Sodium: 62 milligrams
- Total fat: 1.3 grams
- Saturated fat: .6 grams
- Cholesterol: 10 milligrams
- Carbohydrates: 51 grams
- Dietary fiber: 4 grams

OUR PRESENT LOCATION



We will be parked at 2700 Hollins Ferry Rd in the summer.

The Quarterly Newsletter for the HANDLS Community Healthy Aging in Neighborhoods of Diversity across the Life Span

The purpose of this study is to learn about changes in health over time. Using our medical research vehicles, we want to study as many people with different backgrounds as we can. We want this study to help us understand healthy aging by examining the affects of different backgrounds on changes in health over time. The information that we gather will help improve health and prevent disabilities. We want to do this for people from all backgrounds, particularly those in poor and minority communities.

For information about our study call 1-866-207-8363
or visit our website hands.nih.gov



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